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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,391	04/11/2006	Jacques Orban	21.1179	2547
7590 04/06/2009				
Victor H Segura Schlumberger Technology Corporation 200 Gillingham Lane Sugar Land, TX 77478			EXAMINER ANDRISH, SEAN D	
			ART UNIT 3672	PAPER NUMBER
			MAIL DATE 04/06/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,391

Applicant(s)

ORBAN, JACQUES

Examiner

SEAN D. ANDRISH

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25 - 31 and 33 - 38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 25 - 31 and 33 - 38 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Species I: drawn to Figure 6

Species II: drawn to Figures 2A, 2B

Species III: drawn to Figures 4A, 4B

Species IV: drawn to Figure 9

Species V: drawn to Figures 13A - 13C

Species VI: drawn to Figure 3

Species VII: drawn to Figure 10

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species. MPEP

§ 809.02(a).

2. The claims are deemed to correspond to the species listed above in the following manner:
 - a. Claims 33 and 34 are drawn to Species I;
 - b. Claim 25 and 26 are drawn to Species II;
 - c. Claims 28 and 29 are drawn to Species III;
 - d. Claims 30 and 37 are drawn to Species IV;
 - e. Claim 31 is drawn to Species V;
 - f. Claim 27 is drawn to Species VI;
 - g. Claims 35 and 36 are drawn to Species VII.

No claim(s) are generic.

3. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Each of the species has a distinct arrangement of axial supports and connecting members.
 - a. Species I: The axial support and connecting member are constituted by separate physical structure; both ends of axial link connected to upper and lower rings; both ends of inclined link connected to upper and lower rings.
 - b. Species II: The axial support and connecting member are constituted by the same physical structures.
 - c. Species III: The connecting member comprises a torsion ring
 - d. Species IV: The axial link is connected at one end of the ring member and the other end is separated from the other ring member by a small distance.
 - e. Species V: The drill shaft comprising two concentric drill shafts.
 - f. Species VI: The axial link is connected to both the upper and lower rings; connecting members are teeth.
 - g. Species VII: Load supports comprise tension latches; when under compression, axial supports are connected to upper and lower rings; when not under compression, neither end of axial supports are connected to either the upper or lower rings.

Claim 38 has claim limitation(s) drawn to two species (IV and VII), which is incorrect under 35 USC § 112.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “10” has been used to designate “main well” and reference character “20” has

been used to designate "lateral borehole" as illustrated in Fig. 1 and both reference characters "10" and "20" appear to designate the same structural element as reference character "88" (internal shaft) as illustrated in Fig. 14.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "cell" as recited in claim 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. The drawings are objected to because:

a. Ring members define a cell that is flexible in an axial plane as recited in claim 31. However, it is the axial supports and not the rings that are flexible.

b. Figure 4A appears to include two separate figures. Each distinct portion of Fig. 4A should be labeled as a separate figure. Applicant should describe the relationship between the two figures illustrated in Fig. 4A. It appears that both figures are taken from the same perspective and that one of the figures illustrates a non-load bearing arrangement and the second figure illustrates the embodiment of Fig. 4A under tension and compression. Applicant should provide clarification.

c. Figures 5 and 6 each contain two distinct figures, and each distinct figure should have a separate figure label (i.e. Figure 5 may be relabeled Figs. 5A and 5B, or something similar).

d. Applicant must clarify the relationship between the two figures in Fig. 5. Applicant should explain if the ring and link arrangement illustrated on the left side of the figure separate and distinct from the ring and link arrangement illustrated on the right side of the figure or do the two figures represent the same rings and links, with the figure

on the right side being viewed from a different angle than the figure on the left side (i.e. rotated 90 degrees). By "separate and distinct," the examiner means that the ring and links illustrated on the left side is a specific unit that may be stacked above or below the ring and link unit illustrated on the right side of the figure. A similar clarification is needed for Figs. 6 - 10.

- i. Fig. 8: The figure on the left illustrates compression load support connected to the upper ring; the figure on the right illustrates the compression load support is not connected to either the upper or the lower rings.
- ii. Fig. 9: The figure on the left illustrates the load supports connected to the bottom ring; the figure on the right illustrates the load supports connected to the upper ring.
- e. The use of reference character "30" in Fig. 5 is incorrect because one reference character refers to elements in separate drawings (figure on left side, figure on right side). Each drawing must have its own particular set of reference characters. Figs. 6 - 9 contain similar errors.
- f. Figs. 6 - 10 include axial links and load supports that are connected at both ends to adjacent rings 30 which would prevent flexion between adjacent rings 30. Applicant should clarify how such an arrangement would allow for a flexible connection between adjacent rings.
- g. Figs. 12, 13A-C, and 14 refer to the same embodiment of the claimed invention and the reference characters used in all of these figures should be consistent. For example, shafts 74 and 72 of Figure 12 appear to be equivalent to shafts 88 and 84 of

Figure 14 and, if so, the same reference characters should be used in both drawings (i.e. shafts 74 and 72 might be relabeled shafts 88 and 84).

h. It is unclear as to whether the unlabeled rings in Fig. 12 as well as the unlabeled rings on the upper portions of Figs. 13A and 13B are rings 30. If so, they should be labeled as such. If not, the appropriate reference character(s) should be used to identify the rings. Also, the unlabeled vertical lines on Figs. 12, 13A, and 13B appear to be either axial supports or connecting members. The unlabeled vertical lines should be identified using the appropriate reference characters.

i. It does not appear that friction wheel 90 can rotate external shaft segment 84' relative to the inner shaft 88 because there is no connection between friction wheel 90 and the drill shaft as illustrated in Fig. 14.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. Applicant is required to provide section headings in the specification. See Content of Specification listed below for proper format and headings.

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the

applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the

World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(c).

- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.
8. The disclosure is objected to because of the following informalities:
- a. The brief description of the drawings (see page 11 of the specification) must identify the type of view being illustrated (i.e. perspective side view, cross-sectional view, etc.) and must include a short, specific description of the elements of the claimed invention that are being illustrated. For example, simply stating "Figure 5 shows a fourth embodiment of the invention" is insufficient. Another example of insufficient description of the drawings is "Figures 4a and 4b should a third embodiment of a drill shaft according to the invention." Each figure should be described as discussed above.

Appropriate correction is required.

Claim Objections

9. Claims 28 and 37 are objected to because of the following informalities:
- a. Independent claim 27 is drawn to Species II and claim 28, which depends on claim 27, is drawn to Species III.
- b. Claim 35 is drawn to Species VII and its dependent claim 37 is drawn to Species IV.

Appropriate correction is required.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN D. ANDRISH whose telephone number is (571)270-3098. The examiner can normally be reached on Mon - Fri, 7:30am - 5:00pm, Alternate Fri off, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Neuder/
Primary Examiner
Art Unit 3672

SDA
4/2/2009